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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,852	03/09/2004	James M. Bleigh	P059 1131.2	2438

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EXAMINER	
KURTZ, BENJAMIN M	
ART UNIT	PAPER NUMBER
1723	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/796,852	BLEIGH, JAMES M.	
	Examiner	Art Unit	
	Benjamin Kurtz	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 16, 20-21, 24-33, 35, 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer et al. US 5 958 234 in view of Merrett US 5 851 385.

Regarding claim 16, Dwyer (234) discloses a strainer assembly (20) comprising: a strainer body (42) comprising: a first flow control plate (44a) having a primary opening (48) and a first plurality of flow control apertures formed therein, each of the first plurality of flow control apertures having an area, the first plurality of flow control apertures extending radially outward from said primary opening, and a second flow control plate (44b) connected to said first flow control plate (44a) and having a secondary opening and a second plurality of flow control apertures formed therein, each of the first plurality of flow control apertures having an area, the second plurality of flow control apertures extending radially outward from said secondary opening, (fig. 1,3,6, col. 12, lines 49-51). Dwyer (234) does not teach the areas of selected ones of the plurality of flow control apertures increases distally from said primary opening or from the secondary opening. Merrett (385) teaches a strainer assembly with a first flow control apertures proximate to a primary opening having a smaller area than a second flow control aperture distal to the primary opening (fig. 4, col. 7, lines 1-9). It would have been

obvious to one having ordinary skill in the art at the time the invention was made to use the pattern of apertures as taught by Merrett (385) in the assembly of Dwyer (234) because the pattern of selectively sized and spaced holes provides for a substantially uniform fluid flow rate through the holes along the length of the assembly (col. 2, lines 58-67).

Regarding claims 20 and 21, the collective area of said first and second plurality of flow control apertures over a defined unit area increases distally from said primary opening (48) and from said secondary opening respectively (col. 12, lines 49-50).

Regarding claim 24, Dwyer (234) discloses a section strainer system for connection to an inlet of a suction pipe comprising: a plurality of strainer assemblies (42) in flow communication with said inlet (32) of said suction pipe, wherein at least one strainer assembly (42) of said plurality of strainer assemblies comprises: a strainer body defining a first internal chamber and having a primary opening (48) formed therein, said strainer body having a wall (44a) encompassing at least a portion of said first internal chamber, said wall including a first plurality of flow control apertures formed therein, each of the first plurality of flow apertures having an area, the first plurality of flow control apertures extending radially outward from said primary opening (48) (fig. 1,3,6, col. 12, lines 49-51). Dwyer (234) does not teach the areas of selected ones of the plurality of flow control apertures increases distally from said primary opening. Merrett (385) teaches a strainer assembly with a first flow control apertures proximate to a primary opening having a smaller area than a second flow control aperture distal to the primary opening (fig. 4, col. 7, lines 1-9). It would have been obvious to one having

ordinary skill in the art at the time the invention was made to use the pattern of apertures as taught by Merrett (385) in the assembly of Dwyer (234) because the pattern of selectively sized and spaced holes provides for a substantially uniform fluid flow rate through the holes along the length of the assembly (col. 2, lines 58-67).

Regarding claims 25 and 26, said plurality of strainer assemblies are sequentially aligned along a flow line to said inlet (32) (fig. 1); and said internal chamber of said strainer body forms a portion of said flow line (fig. 3).

Regarding claim 27, each of said plurality of strainer assemblies comprises a series of flow control apertures (including 74,76 and 78) formed therein and wherein the aggregate area of each of said flow control apertures of each of said plurality of strainer assemblies increases distally from said inlet (32) (fig. 3 and 5, col. 12, lines 7-12).

Regarding claims 28-30 said strainer body comprises a secondary opening formed therein, upstream of said primary opening (fig. 1 and 3); said plurality of strainer assemblies comprises a second strainer assembly (42'b) comprising a strainer body defining a second internal chamber and having a primary opening formed therein, wherein said primary opening is upstream of said secondary opening of said first strainer assembly (fig. 1 and 3); and said strainer body of said second strainer assembly (42'b) comprises a second plurality of flow control apertures formed therein and wherein the collective area of said second plurality of flow control apertures in defined unit area increases distally from said primary opening of said body of said second strainer assembly (col. 12, lines 49-51).

Regarding claims 31-33, said strainer body comprises a first flow control plate (44a) and a second flow control plate (44b) (fig. 1 and 3); said primary opening of said first strainer assembly (42'a) is formed in said first flow control plate (44'a) and a secondary opening is formed in said second flow control plate (44'b) (fig. 3); and said first flow control plate (44'a) includes a plurality of flow control apertures radially aligned with said primary opening, wherein the collective area of said flow control apertures over a defined unit area increases distally from said primary opening (col. 12, 49-51).

Regarding claim 35, said plurality of strainer assemblies (42) are connected in series (fig. 3).

Regarding claim 37, Dwyer (234) discloses a suction strainer system for connection to a suction inlet of a pump, said strainer assembly comprising: a plurality of strainer assemblies (42) in flow communication with the suction inlet (32), wherein each strainer assembly of said plurality of strainer assemblies comprises: a strainer body defining an internal chamber and comprising a first flow control plate (44'a) and a second flow control plate (44'b), said first flow control plate having a primary opening (48) and a first plurality of flow control apertures, each of the first plurality of flow control apertures having an area, the first plurality of flow control apertures extending radially outward from said primary opening (48), wherein said second flow control plate (44'b) has a second plurality of flow control apertures formed therein and a secondary opening (48), each of the second plurality of flow control apertures having an area, the second plurality of flow control apertures extending radially outward from said secondary opening (fig. 1,3,6, col. 12, lines 49-51). Dwyer (234) does not teach the areas of

selected ones of the plurality of flow control apertures increases distally from said primary opening or from the secondary opening. Merrett (385) teaches a strainer assembly with a first flow control apertures proximate to a primary opening having a smaller area than a second flow control aperture distal to the primary opening (fig. 4, col. 7, lines 1-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the pattern of apertures as taught by Merrett (385) in the assembly of Dwyer (234) because the pattern of selectively sized and spaced holes provides for a substantially uniform fluid flow rate through the holes along the length of the assembly (col. 2, lines 58-67).

Regarding claim 39, the aggregate area of flow control apertures (including 74,76 and 78) in each strainer body increases distally from said suction inlet (32) (fig. 3 and 5, col. 12, lines 7-12).

2. Claims 1-4 and 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Merrett (385) and in view of Kielbowicz U.S. Patent No. 5,759,398.

Regarding claim 1, Dwyer (234) discloses a strainer assembly (20) comprising: a strainer body (42) defining an internal chamber and having a primary opening (48) formed therein, said strainer body (42) comprising a wall (44) including a series of flow control apertures formed therein, the series of flow control apertures extending radially outward from the primary opening wherein said series of flow control apertures comprises at least a first flow control aperture proximate to the primary opening (48) and a second flow control aperture distal to the primary opening (48) (fig. 1, 6, col. 7,

lines 16-17). Dwyer (234) does not disclose the second flow control aperture having an area greater than the area of the first flow control aperture or the first and second apertures being covered by screen. Merrett (385) teaches a strainer assembly with a first flow control apertures proximate to a primary opening having a smaller area than a second flow control aperture distal to the primary opening (fig. 4, col. 7, lines 1-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the pattern of apertures as taught by Merrett (385) in the assembly of Dwyer (234) because the pattern of selectively sized and spaced holes provides for a substantially uniform fluid flow rate through the holes along the length of the assembly (col. 2, lines 58-67). Kielbowicz (398) teaches a strainer assembly (1) having flow apertures (14) covered by screen (3) (fig. 1 and 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen of Kielbowicz (398) in the assembly of Dwyer (234) because the screen holes (2) allow for a significantly increased backwashing flow rate (col. 3, lines 44-65).

Regarding claims 2-4, Dwyer (234) further discloses the wall (44) comprises a flow control plate having at least one of said first flow control aperture and said second flow control aperture formed therein (col. 7, lines 16-17).

Regarding claim 3, Dwyer (234) does not disclose the second flow control aperture having an area greater than the area of the first flow control aperture. Merrett (385) teaches a strainer assembly wherein each flow control aperture in said series has an area greater than the area of each flow control aperture proximate to the primary opening (fig. 4, col. 7, lines 1-9). It would have been obvious to one having ordinary

skill in the art at the time the invention was made to use the pattern of apertures as taught by Merrett (385) in the assembly of Dwyer (234) because the patter of selectively sized and spaced holes provides for a substantially uniform fluid flow rate through the holes along the length of the assembly (col. 2, lines 58-67).

Regarding claim 4, Dwyer (234) further discloses the primary opening (48) is centrally aligned in the flow control plate and the series of flow control apertures is radially aligned with the primary opening (48) (fig. 6).

Regarding claims 6-11, Dwyer (234) further discloses said wall (44) comprises a first flow control plate (44a) and second flow control plate (44b) (fig. 1); each of said first flow control plate (44a) and said second flow control plate comprises a plurality of flow control apertures formed therein (col. 7, lines 16-17); said primary opening (48) is formed in said first flow control plate (44a) (fig. 1); said second flow control plate comprises a secondary opening formed therein (fig. 1 and 3); said primary opening (48) and said secondary opening are axially co-aligned (fig. 3); and said plurality of flow control apertures of said first flow control plate (44a) are radially aligned with said primary opening (48) and said plurality of flow control apertures of said second flow control plate (44b) are radially aligned with said secondary opening (col. 7, lines 16-17).

Regarding claim 12, Dwyer (234) does not disclose the flow control plates supported by a tension rod. Kielbowicz (398) teaches flow plates supported by a tension rod (10) (fig. 1 and 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the tension rod of Kielbowicz (398)

because the rods clamp the units between a flange and an end plate (col. 2, lines 35-36).

Regarding claims 13 and 14, Dwyer (234) further discloses a rim (46a) disposed between said first (44a) and second (44b) flow control plates (fig. 1); and the rim (46a) includes flow control apertures formed therein (col. 14, lines 21-22).

3. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Merrett (385) and in view of Kielbowicz (398) as applied to claims 2 and 6 above, and further in view of Luthi U.S. Patent No. 3,438,505.

Regarding claim 5, Dwyer (234) in view of Merrett (385) and in view of Kielbowicz (398) does not teach the flow control plate comprising a standoff formed thereon. Luthi (505) teaches a flow control plate (12) comprising a standoff (ribs between grooves 60 and 62) formed thereon separating a screen (78) from flow control apertures (68 and 74) (fig. 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen and standoff of Luthi (505) because the grooves provide the plate with substantial flow volume for draining fluid and forms the plate of substantial stiffness and strength (col. 4, lines 68-72).

Regarding claim 15, Dwyer (234) in view of Merrett (385) and in view of Kielbowicz (398) does not teach a first and second screen plate aligned with the first and second flow control plate. Luthi (505) teaches a first and second screen plate (78) aligned with a first and second flow control plate (fig. 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to align the

screen plates with the flow control plates as taught by Luthi (505) because it increases the effective filtering area.

4. Claims 17, 18, 34 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Merrett (385) as applied to claims 16, 24 and 37 above, and further in view of Luthi (505).

Regarding claims 17 and 18, Dwyer (234) in view of Merrett (385) does not disclose a screen extending across said first and second plurality of flow control apertures. Luthi (505) teaches a screen extending across a first and second plurality of flow control apertures (68 and 74) and the screen comprises a first screen plate aligned with a first flow control plate and a second screen plate aligned with a second flow control plate (fig. 2 and 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen of Luthi (505) because the screens provide additional filtering (col. 1, lines 34-37).

Regarding claim 34, Dwyer (234) in view of Merrett (385) does not disclose a screen extending across said flow control apertures. Luthi (505) teaches a screen extending across flow control apertures (68 and 74) (fig. 2 and 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen of Luthi (505) because the screens provide additional filtering (col. 1, lines 34-37).

Regarding claim 38, Dwyer (234) in view of Merrett (385) does not disclose screen extends across said first and second pluralities of flow control apertures of each strainer body. Luthi (505) teaches screen extending across first and second pluralities

of flow control apertures (68 and 74) (fig. 2 and 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the screen of Luthi (505) because the screens provide additional filtering (col. 1, lines 34-37).

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Merrett (385) as applied to claim 16 above, and further in view of Kielbowicz (398). Dwyer (234) in view of Merrett (385) does not disclose the first and second flow control plates supported by at least one tension rod. Kielbowicz (398) teaches flow plates supported by a tension rod (10) (fig. 1 and 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the tension rod of Kielbowicz (398) because the rods clamp the units between a flange and an end plate (col. 2, lines 35-36).

6. Claims 22, 23 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwyer (234) in view of Merrett (385) as applied to claims 16 and 24 above, and further in view of Hart et al. U.S. Patent No. 5,935,439.

Regarding claim 22, Dwyer (234) in view of Merrett (385) does not disclose the strainer assembly connected in series to a second strainer assembly. Hart (439) teaches a strainer assembly connected in series to a second strainer assembly (fig. 9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the assemblies in series as taught by Hart (439) because an elongated suction strainer is formed, increasing the volume of fluid flow (col. 5, lines 30-32, col. 1, lines 20-28).

Regarding claim 23, Dwyer (234) in view of Merrett (385) does not disclose the strainer assembly connected in parallel to a second strainer assembly. Hart (439) teaches a strainer assembly connected in parallel to a second strainer assembly (fig. 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the assemblies in parallel as taught by Hart (439) because an elongated suction strainer is formed, increasing the volume of fluid flow (col. 5, lines 30-32, col. 1, lines 20-28).

Regarding claim 36, Dwyer (234) in view of Merrett (385) does not disclose said plurality of strainer assemblies connected in parallel. Hart (439) teaches a plurality of strainer assemblies connected in parallel (fig. 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the assemblies in parallel as taught by Hart (439) because an elongated suction strainer is formed, increasing the volume of fluid flow (col. 5, lines 30-32, col. 1, lines 20-28).

Response to Arguments

7. The objections to the drawings have been withdrawn in view of the applicant's amendments to the drawings.

8. The rejection of claim 27 under 35 U.S.C. 112 has been withdrawn in view of the applicant's amendment to the claim.

9. Applicant's arguments filed 10/5/06 have been fully considered but they are not persuasive. The applicant has argued that the Dwyer '234 reference lacks the limitations of a plurality of flow control apertures extending radially outward from a primary opening in the strainer body and the areas of selected ones of the plurality of

flow control apertures increase distally from the primary opening. Dwyer teaches the walls (44a-f) of the strainer bodies are perforated (col. 12, lines 49-67) with the perforations evenly distributed about the wall. As the perforations are evenly distributed they will extend in a radially outward direction from the primary opening (48) (fig. 6). Dwyer does not teach the areas of selected ones of the plurality of flow control apertures increase distally from the primary opening. Merrett '385 teaches a configuration where flow control apertures extend outward from a primary opening where the areas of selected ones of the plurality of flow control apertures increase distally from the primary opening. Merrett is addressing the same problem of establishing a substantially uniform flow along a suction surface. Although the configuration of Merrett is different the problem solved and the application of the solution is analogous and renders the combination obvious to one of ordinary skill in the art.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Kurtz whose telephone number is 571-272-8211. The examiner can normally be reached on Monday through Friday 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bk 12/13/06

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